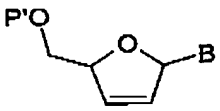
Attorney's Docket: 2003IT303
Serial No.: 10/567,696
Art Unit:
Supplemental Preliminary Amendment prior to Examination

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(Previously Presented) A process for preparing 2',3'-didehydro-2',3'-dideoxynucleoside of formula



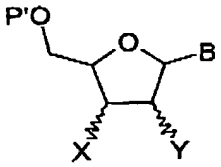
(I)

in which

P' represents hydrogen or a protecting group P, and

B represents a natural or modified, optionally substituted purine or pyrimidine base or a five- or six-membered monocyclic or eleven- or twelve-membered bicyclic, optionally substituted heterocyclic system containing at least one nitrogen atom;

which comprises reducing a compound of formula



(II)

in which

X and Y represent, alternately, a halogen or an acyloxy group RCOO-,

P' and B have the meanings given above,

by reaction with divalent zinc and an activating agent in an organic phase to provide the compound of formula 1, and,

adding a sulfide solution of an alkali metal sulfide or alkaline-earth metal sulfide to precipitate divalent zinc as zinc sulfide from said organic phase.

2.(Previously Presented) The process according to Claim 1, in which:

P' represents an acyl group RCO-, in which R represents a C_1-C_5 alkyl or a group $R^1COOC(R^2R^3)$-, in which R^1, R^2 and R^3 represent a C_1-C_5 alkyl;

B represents an optionally substituted natural purine or pyrimidine base;

X and Y represent, alternatively, bromine and an acyloxy group RCOO-, in which R represents a C_1-C_5 alkyl, or a group $R^1COOC(R^2R^3)$-, in which R^1, R^2 and R^3 represent a C_1-C_5 alkyl.

3.(Previously Presented) The process according to Claim 1, in which the said activating agent is selected from the group consisting of copper, acetic acid, ammonium salt, phosphonium salt, and mixtures thereof.

4.(Previously Presented) The process according to Claim 1, in which the said organic phase is a solvent selected from the group consisting of tetrahydrofuran, dimethylacetamide, alcohol, acetonitrile, chlorinated solvent, dimethyl sulfoxide, and mixtures thereof.

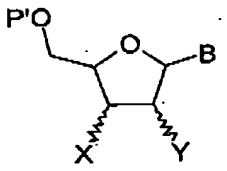
5.(Previously Presented) The process according to Claim 1, in which the said sulfide solution comprises a polar solvent selected from the group consisting of a dipolar aprotic solvent, water, and mixtures thereof.

6.(Currently Amended) The process according to Claim 1, in which said sulfide solution comprises the alkali metal sulfide or alkaline-earth metal sulfide in an amount of at least one molar equivalent relative to the ~~divalent zinc~~ starting material.

7.(Previously Presented) The process according to Claim 1, in which the alkali metal sulfide is sodium sulfide.

8.(Currently Amended) The process ~~Process~~ according to Claim 1, further comprising removing precipitated zinc sulfide by filtration.

9.(Previously Presented) The process according to Claim 1, which further comprises reducing the double bond of the compound of formula I to give the corresponding 2',3'-dideoxynucleoside of formula



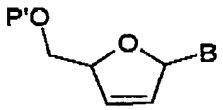
(II).

in which X = Y = H, and

P' represents an acyl group RCO-, in which R represents a C_1-C_5 alkyl or a group $R^1COOC(R^2R^3)$-, in which R^1, R^2 and R^3 represent a C_1-C_5 alkyl;

B represents an optionally substituted natural purine or pyrimidine base.

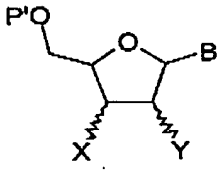
10.(Previously Presented) The process according to Claim 1, which further comprises the deprotection reaction of a compound of formula



(I)

in which P' represents a protecting group P, and B represents an optionally substituted natural purine or pyrimidine base, to give the corresponding compound of formula I, in which P' represents hydrogen.

11.(Previously Presented) Process according to Claim 9, which further comprises the deprotection reaction of a compound of formula



(II)

in which P' represents a protecting group P, X and Y represent H, and B represents an optionally substituted natural purine or pyrimidine base, to give the corresponding compound of formula II, in which P' represents hydrogen.

12.(Previously Presented) The process of claim 1, wherein the 2',3'-didehydro-2',3'-dideoxynucleoside is selected from the group consisting of 5-fluoro-2',3'-dideoxy-2',3'-didehydro-β -D-cytidine, stavudine, dideoxyadenosine, didanosine, zalcitabine, and mixtures thereof.

13.(Previously Presented) The process of claim 1, wherein B is selected from the group consisting of adenine, inosine, 5-F-cytosine, hypoxanthine, thymine, and mixtures thereof.

14.(Previously Presented) The process of Claim 1, wherein said activating agent is selected from the group consisting of ammonium salt, phosphonium salt, and mixtures thereof.

15.(Previously Presented) The process of Claim 1, wherein said sulfide solution comprises the alkali metal sulfide or alkaline-earth metal sulfide in an amount greater than one molar equivalent relative to the divalent zinc.

16.(Previously Presented) The process of claim 2, wherein R^1 is methyl.